<u>CLAIMS</u>

1. An (S)-secondary alcohol of formula (VIIIA)

X₂-CH₂-C*H(OH)-CH₂-NH-CO-R_N

(VIIIA)

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where:

(I) R_N is C_1 - C_5 alkyl;

(II) X_2 is:

(A) -Cl,

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- (B) -Br,
- (C) p-CH₃-ф-SO₂-,
- (D) m-NO₂-φ-SO₂-.
- 2. An (S)-secondary alcohol (VIIIA) according to claim 1 where R_N is C_1 alkyl.

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- 3. An (S)-secondary alcohol (VIIIA) according to claim 1 where X2 is -Cl.
- 4. An (S)-secondary alcohol (VIIIA) according to claim 1 which is selected from the group consisting of (S)-1-acetamido-2-hydroxy-3-chloropropane.

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5. An (S)-epoxide of formula (VIIIB)

(VIIIB)

- 25 where:
 - (I) where R_N is C_1 - C_5 alkyl;
 - (II) where # indicates that the atoms marked with a (#) are bonded to each other resulting in the formation of a ring.
- 30 6. An (S)-epoxide (VIIIB) according to claim 5 where R_N is C_1 alkyl.
 - 7. An (S)-epoxide (VIIIB) according to claim 5 which is selected from the group consisting of (S)-glycidylacetamide.
- 35 8. An (S)-ester of formula (VIIIC)

 X_2 -CH₂-C $^{\bullet}$ H(O-CO-R_N)-CH₂-NH-CO-R_N

(VIIIC)

where:

- (I) where R_N is C_1 - C_5 alkyl;
- 5 (II) where X_2 is:
 - (A) -Cl,
 - (B) -Br,
 - (C) p-CH₃- ϕ -SO₂-,
 - (D) m-NO₂- ϕ -SO₂-.

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- 9. An (S)-ester (VIIIC) according to claim 8 where \mathbf{R}_{N} is \mathbf{C}_{1} alkyl.
- 10. An (S)-ester (VIIIC) according to claim 8 where X₂ is -Cl.
- 15 11. An (S)-epoxide (VIIIC) according to claim 8 which is (S)-1-acetamido-2-acetoxy-3-chloropropane.
 - 12. A compound selected from the group consisting of:
 - (1) an (S)-protected alcohol of the formula (IVA)

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$$X_2$$
-CH₂-C * H(OH)-CH₂-N=CH-X₀ (IVA)

where:

(I) X_0 is:

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- (A) -φ,
- (B) o-hydroxyphenyl,
- (C) o-methoxyphenyl,
- (D) p-methoxyphenyl;
- (II) X₂ is:

- (A) -Cl,
- (B) -Br,
- (C) p-CH₃- ϕ -SO₂-,
- (D) m-NO₂-\$-SO₂-;

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(2) an (S)-phthalimide alcohol of the formula (IVC)

X₂-CH₂-C*H(OH)-CH₂—N

where:

(A) X2 is as defined above;

(3) an (S)-phthalimide epoxide of the formula (IVD)

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where:

(A) where # indicates that the atoms marked with a (*) are bonded to 20 each other resulting in the formation of a ring;

(4) an (S)-imine of glydidylamine of the formula (IVB)

$$-O^{\#}-CH_2-C^{*\#}H-CH_2-N=CH-X_0$$
 (IVB)

25 where where X_0 and # are as defined above.

13. An (S)-compound according to claim 12 where X_0 is $-\phi$ or o-hydroxyphenyl and X_2 is -Cl.

- 30 14. An (S)-compound according to claim 12 which is
 - (S)-1-benzalimino-3-chloro-2-proparfol and
 - (S)-1-phthalimido-3-chloro-2-propanol.
 - 15. An (S)-intermediate of the formula (XV)

$$R_{oxa}$$
-NH-CO-O-C*H[-CH₂-X₂][-CH₂-NH-CO-R_N] (XV)

where:

- (I) R_{oxa} is phenyl substituted with one -F and one substituted amino group;
- (II) R_N is C_1 - C_5 alkyl;
- (III) X₂ is:

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- (A) -Cl,
- (B) -Br,
- (C) p-CH₃-ф-SO₂-,
- (D) m-NO₂-φ-SO₂-.
- 10 16. An (S)-intermediate according to claim 15 where R_{oxa} is:

3-fluoro-4-[4-(benzyloxycarbonyl)-1-piperazinyl]phenyl,

3-fluoro-4-(4-morpholinyl)phenyl and

3-fluoro-4-(4-hydroxyacetylpiperaziny)lphenyl.

- 15 17. An (S)-intermediate according to claim 15 where R_N is C_1 alkyl.
 - 18. An (S)-intermediate according to claim 15 where X_2 is -Cl.
- 19. An (S)-intermediate according to claim 15 where the intermediate is
 20 (S)-N-carbo(1'-acetamido-3'-chloro-2'-propoxy)-3-fluoro-4-morpholinylanilin
 - 20. An (S)-oxazolidinone phthalamide intermediate of the formula (XVI)

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where:

- (I) R_{oxa} is phenyl substituted with one -F and one substituted amino group;
- (II) X_2 is:
 - (A) -Cl,

- (B) -Br,
- (C) p-CH₃- ϕ -SO₂-,

(D) m-NO₂-\$-SO₂-.

21. An exacolidine phthalamide intermediate (XVI) according to claim 21 where R_{oxa} is:

3-fluoro-4-[4-(benzyloxycarbonyl)-1-piperazinyl]phenyl,

- 3-fluoro-4-(4-morpholinyl)phenyl and
- 3-fluoro-4-(4-hydroxyacetylpiperaziny)lphenyl.
- 22. An oxazolidinone phthalamide intermediate (XVI) according to claim 21 where 10 X₂ is -Cl.
 - 23. A process for the preparation of a (S)-3-carbon amino alcohol of the formula (V)

 X_2 -CH₂-C^{*}H(OH)-CH₂-NH₃⁺ (V)

where X_2 is:

- (A) -Cl,
- (B) -Br,
- 20 (C) p-CH₃-φ-SO₂-,
 - (D) m-NO₂- ϕ -SO₂- which comprises:
 - (1) contacting a non-nitrogen adduct of formula (I)

 $O=CH-X_0 \qquad - \qquad (I)$

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- where X_0 is:

- (A) -\psi,
- (B) o-hydroxyphenyl,
- (C) o-methoxyphenyl,
- 30 (D) p-methoxyphenyl;

with aqueous ammonia (II) in the presence of an (S)-protected-epoxide of formula (III)

$$X_2$$
-CH₂-C [#]H-CH₂-O [#]- (III)

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where:

- (I) # indicates that the atoms marked with a (#) are bonded to each other resulting in the formation of a ring;
 - (II) X2 is as defined above,
 - (2) contacting the reaction mixture of step (1) with acid.

- 24. A process for the preparation of an (S)-3-carbon amino alcohol (V) according to claim 23 where X_2 is -Cl.
- 25. A process for the preparation of a (S)-3-carbon amino alcohol (V) according to claim 23 where the 3-carbon amino alcohol (V) is (S)-1-amino-3-chloro-2-propan 1 hydrochloride.
 - 26. A process for the preparation of an (S)-3-carbon amino alcohol of the formula (V)

 X_2 -CH₂-C^{*}H(OH)-CH₂-NH₃⁺ (V)

where:

(I) X₂ is:

(A) -C1,

- (B) -Br,
- (C) p-CH₃- ϕ -SO₂-,
- (D) m-NO₂- ϕ -SO₂- which comprises:
- (1) contacting phthalimide (VI)
- 25 with an (S)-protected-epoxide of formula (III)

$$X_2$$
-CH₂-C^{*#}H-CH₂-O[#]- (III)

- 30 in the presence of potassium phthalamide in DMF or DMAC where:
 - (I) # indicates that the atoms marked with a (#) are bonded to each other resulting in the formation of a ring;

(II) X2 is as defined above; to give an (S)-phthalimide alcohol of formula (IVC)

5 $X_2\text{-CH}_2\text{-C'H(OH)-CH}_2\text{-N}$ (IVC)

where X2 is as defined above and

- 10 (2) contacting the product of step (1) with aqueous acid.
 - 27. A process for the preparation of an (S)-3-carbon amino alcohol (V) according to claim 26 where X_2 is -Cl.
- 15 · 28. A process for the preparation of an (S)-3-carbon amino alcohol (V) according to claim 26 where the (S)-3-carbon amino alcohol is (S)-1-amino-3-chloro-2-propanol hydrochloride.
 - 29. A process for the preparation of a secondary alcohol of the formula (VIIIA)

 X_2 -CH₂-C^{*}H(OH)-CH₂-NH-CO-R_N (VIIIA)

where:

(I) X₂ is:

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(A) -Cl,

(B) -Br,

(C) p-CH₃- ϕ -SO₂-,

(D) m-NO₂-\$-SO₂-;

(II) R_N is C₁-C₅ alkyl;

30 which comprises:

(1) contacting an (S)-3-carbon amino alcohol of the formula (V)

$$X_2$$
-CH₂-C^{*}H(OH)-CH₂-NH₃⁺ (V)

where X_2 is as defined above with an acylating agent selected from the group consisting of an acid anhydrid of the formula $O(CO-R_N)$ where R_N is as defined

above or an acid halide of the formula R_N -CO- X_4 where X_4 is -Cl or -Br and where R_N is as defined above and a tri(alkyl)amine where alkyl is C_1 - C_5 .

- 30. A process for the preparation of a secondary alcohol of the formula (VIIIA) according to claim 29 where the tri(alkyl)amine is triethylamine.
 - 31. A process for the production of an (S)-oxazolidin one-CH $_2$ -NH-CO-R $_N$ of formula (X)

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$$R_{oxa}$$
-RING-CH₂-NH-CO- R_N

(X)

where:

- (I) R_N is C_1 - C_5 alkyl;
- 15 (II) R_{oxa} is phenyl substituted with one -F and one substituted amino group; which comprises:
 - (1) contacting a carbamate of formula (IX)

$$R_{oxa}$$
-NH-CO-O-CH₂-X₁ (IX)

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where:

- (I) X_1 is:
 - (A) C_1 - C_{20} alkyl,
 - (B) C3-C7 cycloalkyl,

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- (C) \$\phi\$- optionally substituted with one or two:
 - (1) C₁-C₃ alkyl,
 - (2) F-, Cl-, Br-, I-,
- (D) $CH_2=CH-CH_2$ -,
- (E) CH₃-CH=CH-CH₂,

(F) (CH₃)₂C=CH-CH₂-,

(G) CH₂=CH-,

- (H) φ-CH=CH-CH₂-,
- (I) \$\phi\$-CH₂- optionally substituted on \$\phi\$- with one or two -Cl, C₁-C₄

alkyl, -NO₂, -CN, -CF₃,

(J) 9-fluorenylmethyl,

(K) (Cl)₃C-CH₂-,



- (L) 2-trimethylsilylethyl,
- (M) ϕ -CH₂-CH₂-,
- (N) 1-adamantyl,
- (O) $(\phi)_2$ CH-,

- 5
- (P) CH≡C-C(CH₃)₂-
- (Q) 2-furanylmethyl,
- (R) isobornyl,
- (S) -H;
- (II) R_{oxa} is as defined above; with an oxygenated amino reagent selected from the group consisting of:
 - (1) an (S)-secondary alcohol of the formula (VIIIA)

 X_2 - CH_2 - $C^*H(OH)$ - CH_2 -NH-CO- R_N

(VIIIA)

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where:

- (I) X₂ is:
 - (A) -C1,
 - (B) -Br,

- 20
- (C) p-CH₃- ϕ -SO₂-,
- (D) $m-NO_2-\phi-SO_2-$;
- (II) R_N is as defined above;

or an (S)-epoxide of the formula (VIIIB)

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-O#-CH₂-C*#H-CH₂-NH-CO-R_N

(VIIIB)

where:

- (I) # indicates that the atoms marked with a (#) are bonded to each other resulting in the formation of a ring;
- 30 . (II) R_N is as defined above; or an (S)-ester of the formula (VIIIC)

$$X_2$$
-CH₂-C*H(O-CO-R_N)-CH₂-NH-CO-R_N (VIIIC)

35 where:

(I) R_N and X₂ are as defined above;

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in the presence of a lithium cation and a base whose conjugate acid has a pK_a of greater than about 8.

- 32. A process for the production of an (S)-oxazolidinone-CH₂-NH-CO- R_N (X) according to claim 31 where R_{oxa} is:
 - 3-fluoro-4-[4-(benzyloxycarbonyl)-1-piperazinyl]phenyl,
 - 3-fluoro-4-(4-morpholinyl)phenyl and
 - 3-fluoro-4-(4-hydroxyacetylpiperaziny)lphenyl.
- 10 33. A process for the production of an (S)-oxazolidinone-CH₂-NH-CO-R_N (X) according to claim 31 where R_N is C_1 alkyl.
 - 34. A process for the production of an (S)-oxazolidinone-CH₂-NH-CO-R_N (X) according to claim 31 where X_1 is -H.
 - 35. A process for the production of an (S)-oxazolidinone-CH $_2$ -NH-CO-R $_N$ (X) according to claim 31 where X_2 is -Cl.
- 36. A process for the production of an (S)-oxazolidinone-CH₂-NH-CO-R_N (X)

 20 according to claim 31 where the oxygenated amino reagent is a (S)-secondary alcohol

 (VIIIA) or (S)-epoxide (VIIIB).
 - 37. A process for the production of an (S)-oxazolidinone- CH_2 -NH-CO- R_N (X) according to claim 31 where the (S)-oxazolidinone- CH_2 -NH-CO- R_N (X) is (S)-N-[[3-(3-fluoro-4-morpholinylphenyl)-2-oxo-5-oxazolidinyl]methyl]acetamide.
 - 38. A process for the production of an (S)-oxazolidin one-CH $_2$ -NH-CO-R $_{\rm N}$ of formula (X)

 $R_{org}-RING-CH_2-NH-CO-R_N \qquad (X)$

where:

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- (I) R_N is C_1 - C_5 alkyl;
- (II) R_{oxs} is phenyl substituted with one -F and on substituted amino group 35 which comprises:
 - (1) contacting a carbamate of formula (IX)

(XI)

where:

(I) X₁ is:

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- (A) C₁-C₂₀ alkyl,
- (B) C₃-C₇ cycloalkyl,
- (C) ϕ optionally substituted with one or two:
 - (1) C₁-C₃ alkyl,
 - (2) F-, Cl-, Br-, I-,

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- (D) CH₂=CH-CH₂-,
- (E) CH₃-CH=CH-CH₂-,
- (F) (CH₃)₂C=CH-CH₂,
- (G) CH₂=CH-,
- (H) ϕ -CH=CH-CH₂-,

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(I) ϕ -CH₂- optionally substituted on ϕ - with one or two -Cl, C₁-C₄

alkyl, -NO₂, -CN, -CF₃,

- (J) 9-fluorenylmethyl,
- (K) (Cl)₃C-CH₂-,
- (L) 2-trimethylsilylethyl,

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- (M) \$-CH₂-CH₂-,
- (N) 1-adamantyl,
- (O) $(\phi)_2$ CH-,
- (P) CH≡C-C(CH₂)₂-
- (Q) 2-furanylmethyl,

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- (R) isobornyl,
- (S) -H;

(II) R_{oxa} is as defined above; with a phthalimide reagent selected from th group consisting of:

(1) a phthalimide alcohol of the formula (IVC)

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where:

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(I) X_ is:

(A) -Cl,

(B) -Br,

(C) p-CH₃-ф-SO₂-,

(D) m-NO₂- ϕ -SO₂-;

(2) a phthalimide epoxide of the formula (IVD)

where # indicates that the atoms marked with a (*) are bonded to each other resulting in the formation of a ring to give the ring-phthalimide compound of formula (XI)

where R_{oxa} is as defined above, in the presence of a lithium cation and a base whose conjugate acid has a p K_a of greater than about 8,

(2) contacting the product of step (1) with aqueous acid,

(3) contacting the reaction mixture of step (2) with an acid anhydride of th formula $O(CO-R_N)_2$ where R_N is as defined above or an acid halide of the formula R_N -CO-X₄ where X₄ is -Cl or -Br and where R_N is as defined above and a tri(alkyl)amine where alkyl is C_1 - C_5 .

39. A process for the production of an (S)-oxazolidinone-CH2-NH-CO- R_N (X) according to claim 38 where $R_{\rm oxa}$ is:

3-fluoro-4-[4-(benzyloxycarbonyl)-1-piperazinyl]phenyl,

3-fluoro-4-(4-morpholinyl)phenyl and

3-fluoro-4-(4-hydroxyacetylpiperaziny)lphenyl

- 40. A process for the production of an (S)-oxazolidinone-CH₂-NH-CO- R_N (X) according to claim 38 where R_N is C_1 alkyl.
- 41. A process for the production of an (S)-exazelidinene-CH₂-NH-CO- R_N (X) according to claim 38 where X_1 is -H.
 - 42. A process for the production of an (S)-oxazolidinone-CH₂-NH-CO-R_N (X) according to claim 38 where X_2 is -Cl.
- 43. A process for the production of an (S)-R_{oxa}-RING-CH₂-NH-CO-R_N of the formula (X)

$$R_{oxa}$$
-RING-CH₂-NH-CO-R_N (X)

where:

- (I) R_N is C_1 - C_5 alkyl;
- (II) R_{oxa} is phenyl substituted with one -F and one substituted amino group which comprises:
- 20 (1) contacting a carbamate of the formula (IX)

$$R_{oxa}$$
-NH-CO-O-X₁ (IX)

where: _

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- (I) X₁ is
 - (A) C_1 - C_{20} alkyl,
 - (B) C₃-C₇ cycloalkyl,
 - (C) ϕ optionally substituted with one or two:
 - (1) C_1 - C_3 alkyl,

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- (2) F-, Cl-, Br-, I-,
- (D) CH₂=CH-CH₂-,
- (E) CH₃-CH=CH-CH₂-,
- (F) (CH₃)₂C=CH-CH₂-,
- (G) CH₂=CH-,

- (H) \p-CH=CH-CH2-,
- (I) ϕ -CH₂- optionally substituted on ϕ with one or two -Cl, C₁-C₄

alkyl, -NO2, -CN, -CF3,

- (J) 9-fluorenylmethyl,
- (K) (Cl)₃C-CH₂-,
- (L) 2-trimethylsilylethyl,

- $(M) \phi CH_2 CH_2 -$
- (N) 1-adamantyl,
- (O) $(\phi)_2$ CH-,
- (P) CH≡C-C(CH₃)₂-
- (Q) 2-furanylmethyl,

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- (R) isobornyl,
- (S) -H;
- (II) R_{oxa} is as defined above; with a compound selected from the group consisting of a (S)-protected alcohol of the formula (IVA)

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$$X_2$$
-CH₂-C * H(OH)-CH₂-N=CH- X_0

(IVA)

where:

(I) X₀ is:

(A) - ,

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- (B) o-hydroxyphenyl,
- (C) o-methoxyphenyl,
- (D) p-methoxyphenyl;

(II) X₂ is:

(A) -Cl,

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- (B) -Br,
- (C) p-CH₃-φ-SO₂-,
- (D) m-NO₂- ϕ -SO₂-;

and a (S)-3-carbon protected epoxide of the formula (IVB)

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(IVB)

where:

- (I) # indicates that the atoms marked with a (*) are bonded to each other resulting in the formation of a ring,
- 35. (II) X_0 is as defined above in the presence of a lithium cation and a base whose conjugate acid has a p K_n of greater than about 8 to produce a (S)-protected



oxazolidinone of the formula (XII)

R_{oxa}-RING-CH₂-N=CH-X₀

(XII)

where X_0 and R_{oxa} are as defined above;

(2) contacting the reaction mixture of step (1) with aqueous acid to produce an (S)-oxazolidinone free amine of the formula (XIII) and

Roxa-RING-CH2-NH2

(XIII)

10 (3) contacting the product of step (2) with an acylating agent selected from the group consisting of an acid anhydride of the formula $O(CO-R_N)_2$ where R_N is as defined above or an acid halide of the formula R_N -CO-X₄ where X₄ is -Cl or -Br and where R_N is as defined above and a tri(alkyl)amine where alkyl is C_1 - C_5 where R_{oxa} is as defined above.

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- 44. A process for the production of an (S)- R_{oxa} -RING- CH_2 -NH-CO- R_N (X) according to claim 43 where R_{oxa} is:
 - 3-fluoro-4-[4-(benzyloxycarbonyl)-1-piperazinyl]phenyl,
 - 3-fluoro-4-(4-morpholinyl)phenyl and
 - 3-fluoro-4-(4-hydroxyacetylpiperaziny)lphenyl.

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- 45. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N (X) according to claim 43 where R_N is C_1 alkyl.
- 46. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N (X) according to claim 43 where X_0 is - ϕ or o-hydroxyphenyl.
 - 47. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N (X) according to claim 43 where X_1 is -H.

- 48. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N (X) according to claim 43 where X_2 is -Cl.
- 49. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N of the 35 formula (X)

Roxa-RING-CH2-NH-CO-RN

(X)

where:

- (I) R_N is C_1 - C_5 alkyl;
- (II) R_{oxa} is phenyl substituted with one -F and one substituted amino group which comprises:
 - (1) contacting a carbamate of the formula (IX)

$$R_{oxa}$$
-NH-CO-O-CH₂-X₁ (IX)

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where:

- (I) X_1 is:
 - (A) C_1 - C_{20} alkyl,
 - (B) C₃-C₇ cycloalkyl,
- 15 (C) \$\phi\$- optionally substituted with one or two:
 - (1) C₁-C₃ alkyl,
 - (2) F-, Cl-, Br-, I-,
 - (D) CH₂=CH-CH₂,
 - (E) CH₃-CH=CH-CH₂-,
- 20 (F) (CH₃)₂C=CH-CH₂-,
 - (G) CH₂=CH-,
 - (H) φ-CH=CH-CH₂-,
 - (I) ϕ -CH₂- optionally substituted on ϕ with one or two -Cl, C₁-C₄

alkyl, -NO₂, -CN, -CF₃,

- 25 (J) 9-fluorenylmethyl,
 - (K) (Cl)₃C-CH₂,
 - (L) 2-trimethylsilylethyl,
 - $(M) \phi$ - CH_2 - CH_2 -,
 - (N) 1-adamantyl,

30 (O) $(\phi)_2$ CH-,

- (P) CH≡C-C(CH₃)₂-
- (Q) 2-furanylmethyl,
- (R) isobornyl,
- (S) -H;
- 35 (II) R_{oxa} is as defined above; with an (S)-3-carbon amino alcohol (V) where X_2 is as defined above in the presence of a lithium cation and a base whose conjugate

acid has a pK_a of greater than about 8 to produce an (S)-oxazolidinone free amine of the formula (XIII)

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Roxa-RING-CH2-NH2

(XIII)

- 10 ' where Roxa is as defined above, and
 - (2) acylating the (S)-oxazolidinone free amine (XIII) with an acylating agent selected from the group consisting of an acid anhydride of the formula $O(CO-R_N)_2$ where R_N is as defined above or an acid halide of the formula R_N -CO-X₄ where X₄ is -Cl or -Br and where R_N is as defined above and a tri(alkyl)amine where alkyl is C_1 - C_5 .
 - 50. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N (X) according to claim 49 where R_{oxa} is:
 - 3-fluoro-4-[4-(benzyloxycarbonyl)-1-piperazinyl]phenyl,
- 20 3-fluoro-4-(4-morpholinyl)phenyl and
 - 3-fluoro-4-(4-hydroxyacetylpiperaziny)lphenyl.
 - 51. A process for the production of an (S)-R $_{\rm oxa}$ -RING-CH $_2$ -NH-CO-R $_{\rm N}$ (X) according to claim 49 where R $_{\rm N}$ is C $_1$ alkyl.
 - 52. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N (X) according to claim 49 where X_1 is -H.
- 53. A process for the production of an (S)- R_{oxa} -RING-CH₂-NH-CO- R_N (X) according to claim 49 where X_2 is -Cl.